



ATES ENVIRONMENTAL PROTECTION AGENCY

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June 13, 2017

Mr. Anthony R. Brown
Environmental Manager
Atlantic Richfield Company
4 Centerpointe Drive, LPR 4-435
La Palma, CA 90623-1066

Subject: ARC Response to EPA Comments on Focused Feasibility Study Geotechnical Evaluation Task Sampling and Analysis Plan, Leviathan Mine Site, Alpine County, California, Leviathan Mine Site, Alpine County, California, Dated February 9, 2017

Dear Mr. Brown:

The U.S. Environmental Protection Agency (EPA) has completed its review of ARC's February 9, 2017 Responses to EPA's comments on the Focused Feasibility Study Geotechnical Evaluation Task Sampling and Analysis Plan, Leviathan Mine Site, Alpine County, California. This work was submitted to EPA pursuant to Administrative Order for Remedial Investigation and Feasibility Study, Leviathan Mine, Alpine County, California (CERCLA Docket No. 2008-18, June 23, 2008).

Background:

On March 31, 2016 ARC provided a Geotechnical Sampling Analysis plan. On July 8, 2016, EPA conditionally approved the TSAP for field work completion during the 2016 field sampling season. EPA and provided a number of comments requested a response to comments, although did not clearly specify the usual 30 days for when the response is due. EPA also requested ARC provide a report to EPA within 90 days of the field work completion.

On December 29, 2016, EPA provided a following email requesting the response to comments within 30 days or by January 29, 2017.

On February 9, 2017, ARC provided responses to the comments on the Focused Feasibility Study Geotechnical Evaluation TSAP and ARC Atlantic Richfield clarified that they do not plan to submit an interim (90-day) data report summarizing the results of the geotechnical evaluation.

Further, ARC provides a rationale for selecting their proposed scope for the TSAP and explains why certain data collection efforts were not included. Atlantic Richfield notes that they have implemented most of the scope described in the Geotechnical TSAP in 2016 and will complete the remaining characterization scope in the 2017 field season. Monitoring activities will continue afterwards.

EPA has considered ARC's responses and discussed need for additional investigations beyond those described in the Geotechnical TSAP. On May 23, 2017 EPA and ARC had an in-person meeting that included a geotechnical update.

EPA has completed its review and provides the following comments:

- **Former EPA comments dated July 8, 2017:** EPA noted that the Geotechnical work plan is incomplete and that it does not follow the tasks identified in the RI SOW attached to the June 2008 UAO. Nor does the work plan meet the objectives identified in the PWP and Programmatic DQOs. Atlantic Richfield's draft of the 2009 Programmatic Work Plan (PWP) acknowledged the need for geotechnical work in its own data quality objectives (DQO). Further, ARC's August 2010 On Property FRI Work Plan identified a geotechnical investigation (at Section 11). ARC's workplan does not include complete geotechnical investigation of landslides, high walls, mine waste, and pond areas in the current TSAP. **ARC Response:** ARC notes that most of the geotechnical tasks identified in the SOW do not require collecting additional geotechnical characterization data for the FS. Further, that the DQOs have not changed and have simply been updated to conform to the EPA guidance. ARC also considers some of the documents to be historic and have served their intended purpose; noting that there has been a significant collection of additional geotechnical characterization data under the RI work plans that are sufficient to perform the assessments for the FS.

EPA Response: To facilitate discussion in advance of providing these written comments, EPA requested ARC provided an update of the data being collected and to be utilized at an in-person meeting held on May 23, 2017. It is EPA's understanding that the geotechnical assessment will be site-wide and will include but not be limited to; the Leviathan Creek Basin landslide, slope stability, and pond stabilization. Further, EPA understands that the FS, due on or before December 31, 2018; will clearly assess the long term and short-term impacts of slope movement on all remedies. Please fully consider and utilize the April 4, 2017 annotated table of contents, EPA's July 8, 2016 comments and the referenced documents to determine their applicability and usefulness at that time.

EPA provides the following Additional New comments:

- **AC 1 Geotechnical Technical Memorandum:** As discussed at the May 23, 2017 meeting. EPA looks forward to receiving ARC's technical summary outlining the process, schedule and the planned modelling and associated data inputs; that ARC anticipates will be used to support geotechnical evaluations necessary to complete the Feasibility study. Please outline a summary of the existing data that ARC plans to assess and evaluate; and why ARC finds that information to be sufficient.
- **AC 2: Landslide Movement/Monitoring:** In the technical memo referenced in AC 1 above, please summarize the information supporting ARC's inference that the Leviathan Basin Landslide is not significantly active or moving. In addition, please develop and submit a field monitoring plan to support and continue to confirm this conclusion

Specific Comments:

- **S1 Study Areas:** Please provide a copy of the slide ARC presented at the May 23, 2017 technical meeting that shows the various Geotechnical (GT) Study areas. To date, ARC has provided a Sampling Analysis Plan for work in the "GT3" area only. ARC stated that there is sufficient existing data for the all the other Geotechnical Study Areas. In the technical memorandum noted above in AC1; please include a summary of the process to be utilized and the existing data inputs that ARC believes exists and are sufficient to complete the geotechnical assessment in accordance with the RI SOW. Some of this detail was provided in the response to comments table dated February 9, 2017 and should be incorporated into the Technical memorandum.
- **S2 Acid Mine Drainage:** Please outline how the field sampling in the acid pond area will be utilized to inform understanding of acid mine drainage within the slide itself; and identify opportunities for addressing the acid water, rather than relying on seepage to migrate through the slide and impact surface water.

Within 90 days, or by September 13, 2017; please provide the Geotechnical Technical memorandum outlining and summarizing the ARC process and items noted herein. Providing a summary of the data that ARC believes will be sufficient to inform the Feasibility Study (FS) and the characterization needed to meet the geotechnical tasks identified in the Statement of Work for Remedial Investigation/Feasibility Study (SOW)

EPA notes that additional geotechnical investigations will likely be necessary to complete the Remedial Design (RD) (40 CFR § 300.5) and the process should be such that information is gathered in advance and in a timely manner so as not to result in significant delays.

If you have any questions, please feel free to contact me at (415) 947-4183 or Deschambault.lynda@epa.gov.

Sincerely,



Lynda Deschambault
Remedial Project Manager

Cc by electronic Email:

Norman Harry, Washoe Tribe of Nevada and California
Douglas Carey, California Regional Water Quality Control Board, Lahontan Region
David Friedman, Nevada Department of Environmental Protection
Kenneth Maas, United States Forest Service
Tom Maurer, United States Fish and Wildlife Service
Toby McBride, United States Fish and Wildlife Service
Steve Hampton, California Department of Fish and Wildlife

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